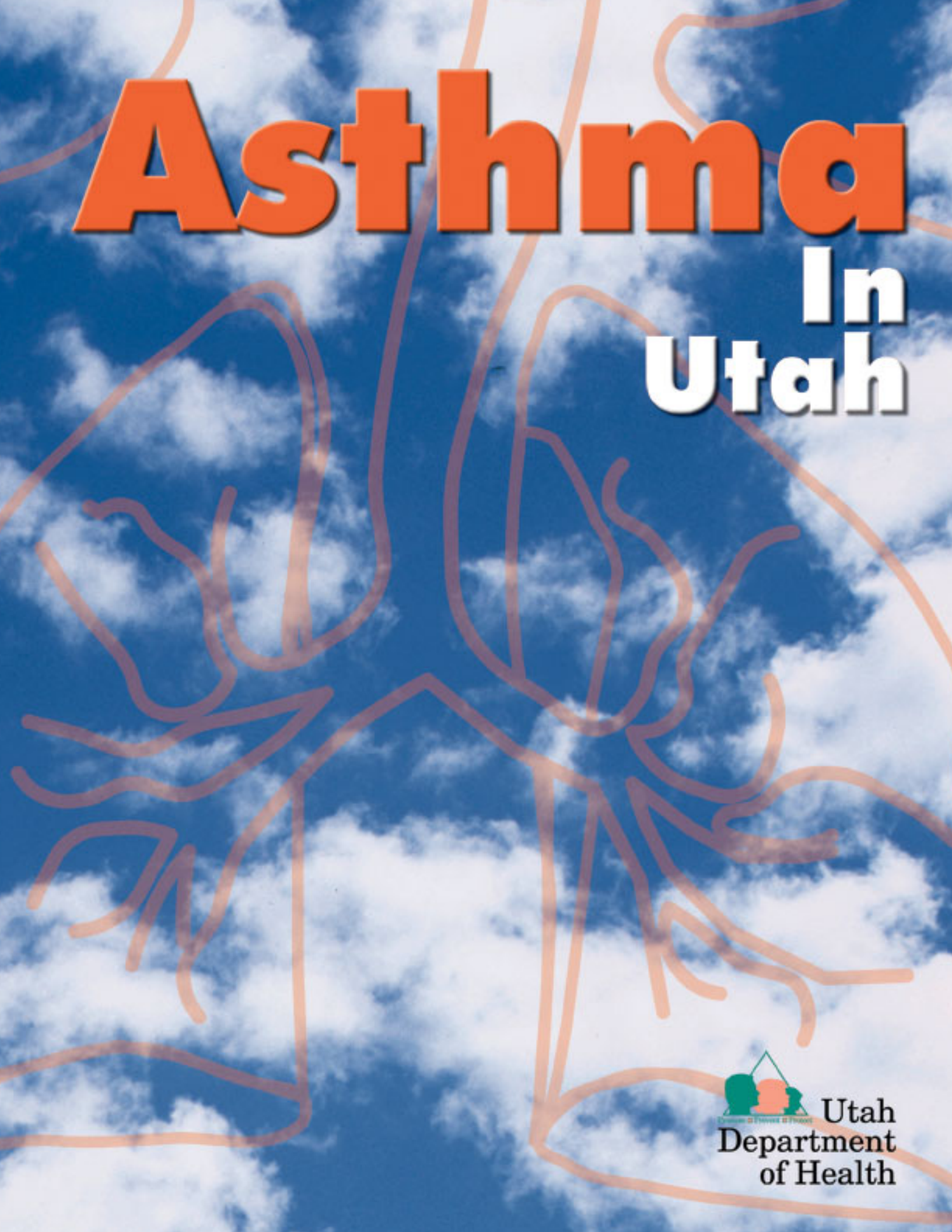
Asthma In Utah



Utah Department of Health

Utah Asthma Task Force

Asthma In Utah

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Acknowledgments

Great appreciation is extended to the following individuals who provided technical assistance, data analysis, editorial reviews, suggestions, and support.

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Division of Community and Family Health
George Delavan, MD, Division Director

Bureau of Health Promotion
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Suggested Citation

Utah Asthma Program, Bureau of Health Promotion, *Asthma in Utah,* Salt Lake City, UT: Utah Department of Health 2004.

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This project was funded by Cooperative Agreement number: U59/CCCU820854 from the Centers for Disease Control and Prevention. The contents of this report are solely the responsibility of the authors and do not necessarily represent the official view of the Centers for Disease Control and Prevention.

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Executive Summary

Purpose

This report assesses the burden of asthma in Utah.

Background

Asthma is a serious personal and public health issue that has far reaching medical, economic and psychosocial implications. The burden of asthma can been seen in the number of asthma-related medical events, including emergency department visits, hospitalizations and deaths. Economically, the burden of asthma can be seen in the treatment costs associated with asthma and the number of school and work days missed due to asthma. Ultimately, persons with asthma report a lower quality of life as compared to persons without asthma.

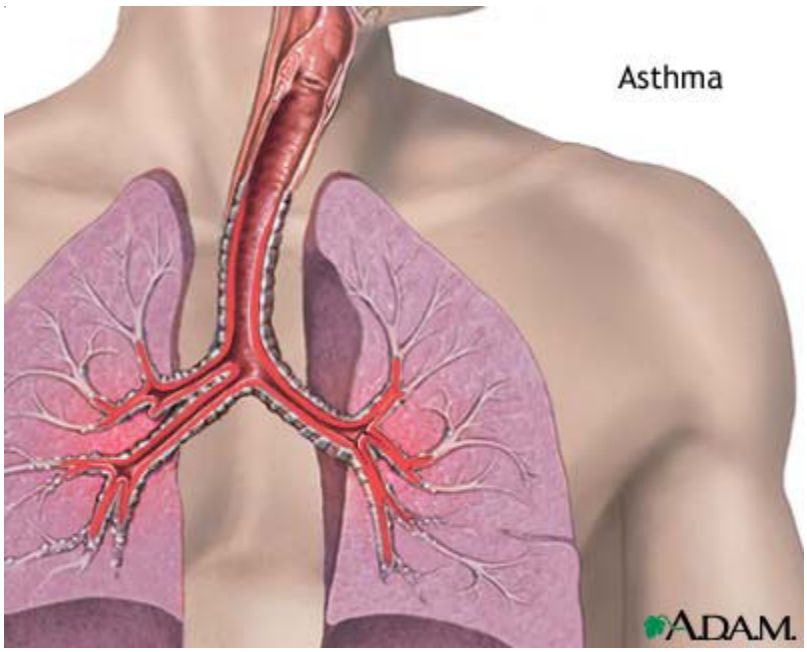
Recognizing the growing burden of asthma on Utah citizens, the Utah Department of Health applied for funding from the Centers for Disease Control and Prevention. The cooperative funding program was designed to allow states to develop the capacity to address asthma from a public health perspective. Utah received funding in late 2001 and created the Utah Asthma Program. The goals of the Utah Asthma Program include enhancing infrastructure to address asthma from a public health perspective, creating and maintaining an asthma surveillance system, building partnerships within the community, and developing population-based strategies to improve asthma care and management.

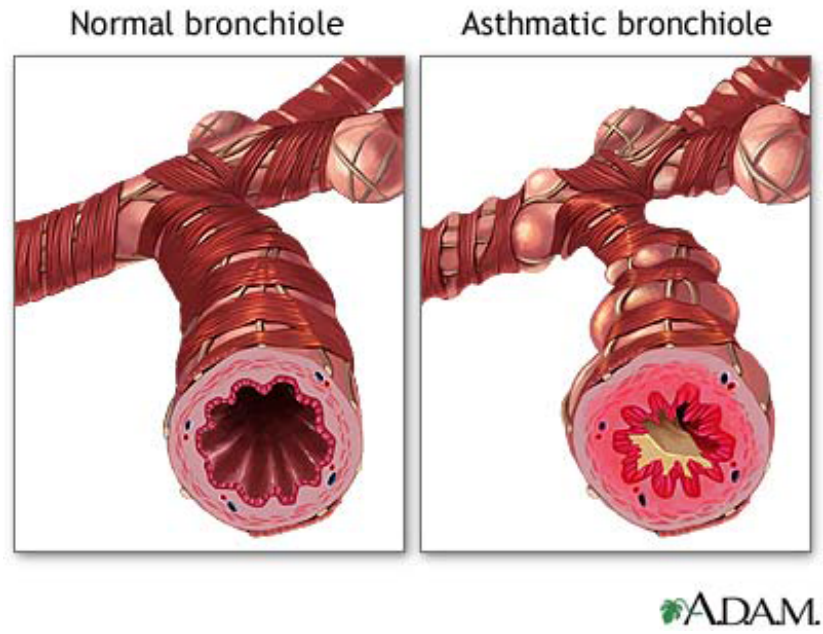
Findings

- Utah residents aged 18-29 and 55-64 experienced the highest prevalence of asthma.
- The prevalence of asthma among adult females in Utah and U.S. was higher than adult males.
- Adults with asthma reported almost two more days physically ill during the past month than those without asthma.
- 41.5% and 30.8% of middle and high school males and females respectively, reported an asthma attack in the past year, while only 11.9% and 15.0% of students had a written asthma plan.
- Utahns living in the Central Utah and Tri-County districts were more likely to have been diagnosed with asthma than those in other health districts.
- 64.4% of males and 60.7% of females who suffered from asthma had taken asthma medications, while 45.5% and 50.2 % of males and females respectively experienced asthma symptoms one or more times a week.

Asthma Defined

Asthma is a chronic condition that involves increased difficulty in breathing due to airway inflammation and constriction caused by sensitivity to a variety of environmental triggers. Exposure to a trigger (e.g. cold, dry air) causes the airways to produce excessive mucus, and the muscles around the airways to tighten. Such airway obstruction can be reversed with treatment, and may also reverse spontaneously after removal from the triggering situation. Signs of asthma include coughing, wheezing (whistling or rattling sound while breathing), trouble catching breath, dizziness, and tightness in the chest.





The periodic breathing problems caused by asthma are called an "asthma episode" or "asthma attack." An asthma attack may require medication or some other form of treatment for normal breathing to be restored. In most cases, there are warning signs for asthma attacks. Knowing the symptoms of asthma and treating those symptoms early can prevent more serious episodes from occurring.

"Asthma triggers" can set off asthma episodes, and include: cold or dry air, dust, pollen, pollution, cigarette smoke, stress, or physical activity. Asthma triggers are not the same for everyone. Knowledge of personal trigger(s) and what to do during an asthma attack is a necessity for persons with asthma.

In the United States the cost of asthma was estimated in 1998 to be $11.3 billion.

The total cost of asthma in Utah in 1998 was estimated to be $80 million with $46 million in direct medical expenditure and $34 million attributed to indirect costs. (http://www.aafa.org).

Healthy People 2010

Healthy People 2010 is a comprehensive set of disease prevention and health promotion objectives for the Nation to achieve over the first decade of the new century. The objectives are used by states, communities, professional organizations, and others to help develop programs to improve health. Healthy People 2010 builds on the initiatives pursued over the past two decades; The 1979 Surgeon General's Report, Healthy People, and Healthy People 2000: National Health Promotion and Disease Prevention Objectives. Healthy People 2010 has two overarching goals.

Healthy People 2010 Goals

1. Help individuals of all ages increase life expectancy and improve their quality of life.
2. Eliminate health disparities among different segments of the population.

To achieve these goals, Healthy People 2010 contains 28 focus area chapters that contain concise goal statements. The goal for the respiratory disease section is to promote respiratory health through better prevention, detection, treatment, and education efforts. Specific goals for asthma include:

Healthy People 2010 Goals

Asthma Specific Goals

1. Reduce asthma deaths.
2. Reduce hospitalizations for asthma.
3. Reduce hospital emergency department visits for asthma.
4. Reduce activity limitations among persons with asthma.
5. Reduce the number of school or work days missed by persons with asthma.
6. Increase the proportion of persons with asthma who receive formal patient education.
7. Increase the proportion of persons with asthma who receive appropriate asthma care according to the national guidelines.

The Utah Asthma Program conducts asthma surveillance to measure the burden and progress towards goals using the follwing data sources:

Available Asthma Data in Utah

Survey Data

Health Status Survey

The Utah Department of Health (UDOH) currently conducts an ongoing statewide household Health Status Survey (HSS) which began in 1981. The survey was carried out every five years, and in 2003 began to be conducted continually. This survey collects data on people of all ages and is a significant source of data on persons aged 0-17. In 1991, 1996, and 2001 respondents were asked whether any person living in the household was under medical care for asthma. Respondents were also asked to rate the health of each household member as excellent, very good, good, fair, or poor, allowing analysis of health status for each person with and without asthma.

Behavioral Risk Factor Surveillance System

Utah implemented the Behavioral Risk Factor Surveillance System (BRFSS) in 1984 to assess health trends in the population. The BRFSS is a monthly telephone survey conducted by the UDOH and funded by the Centers for Disease Control and Prevention (CDC). Approximately 4,000 randomly selected Utahns ages 18 years or older are queried about their health, health behaviors, health care access and demographic characteristics. Utah's BRFSS complies with CDC quality control protocols. Access to BRFSS data is immediate, with UDOH analysis on items of statewide interest. Respondents in the 2002 survey were asked the following two questions: "Did a doctor ever tell you that you had asthma?" and "Do you still have asthma?" If the respondent answered "yes" to both of these questions, then he/she was considered to have asthma.

Youth Tobacco Survey

The 2003 Utah Youth Tobacco Survey (UYTS) was administered to both middle and high school students. The UYTS consisted of 63 standardized core questions developed by the CDC and included nine questions addressing asthma. Survey responses were received from 2,796 middle school students and 2,587 high school students. The CDC calculated and provided sample weights, frequencies and 95% confidence intervals for each question. The UYTS did not include youth in private or alternative schools, or school drop outs.

Mortality

Vital Statistics

Death certificates filed with the UDOH Office of Vital Records and Statistics are the source of mortality data for the state. Centralized vital statistics registration started in 1905 in Utah. The death certificate is based on the national standard certificate and includes demographic information as well as cause and circumstances of death. Mortality data for asthma as the underlying cause of death are available through an Internet query system for years 1980 through 2002, allowing tracking of trends.

Morbidity

Hospital Discharge Database

The Utah Statewide Hospital Discharge Database contains of hospital inpatient data for all 55 Utah hospitals since 1992. The database includes demographic data (age, sex, zip code), diagnoses recorded at discharge, total hospital charges, length of stay, and other information. Rates of hospitalization for asthma can be determined by gender, age group, and geographic area. The legislatively mandated database is the most complete population information about morbidity of Utahns.

Emergency Department Visit Database

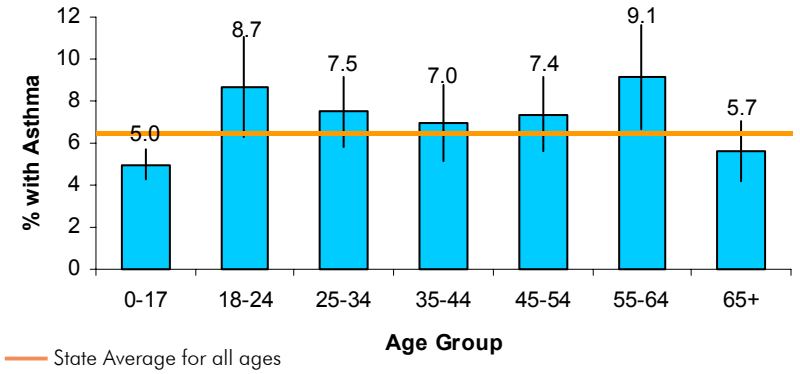
The UDOH Office of Health Care Statistics maintains the Emergency Department Visit Database. Data have been collected since 1998 from all licensed hospitals in Utah on emergency department encounters. The database contains diagnoses, procedures, personal characteristics of patients, the services provided, and charges billed for each encounter.

The following information in this report was produced using above data sources.

Asthma Prevalence

- Young adults (18-24) and older adults (55-65) reported the highest diagnosed asthma prevalence.

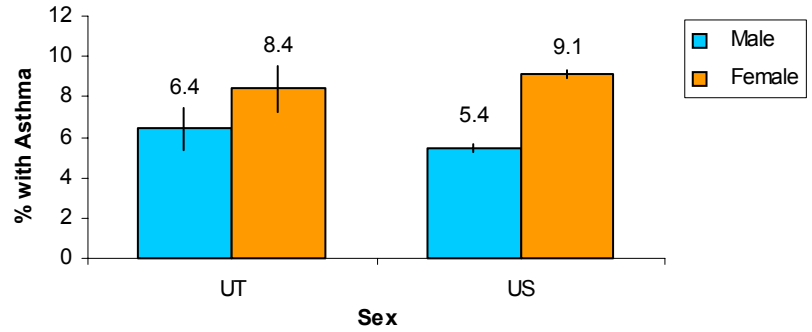
Figure 1.
Prevalence of Asthma in Utah by Age Group, 2001-2002



Source: Age 0-17 Health Status Survey 2001
Source: Age 18 and over Behavioral Risk Factor Surveillance System 2001-2002

- Adult females in Utah, as well as nationally, were at a higher risk for asthma than males.

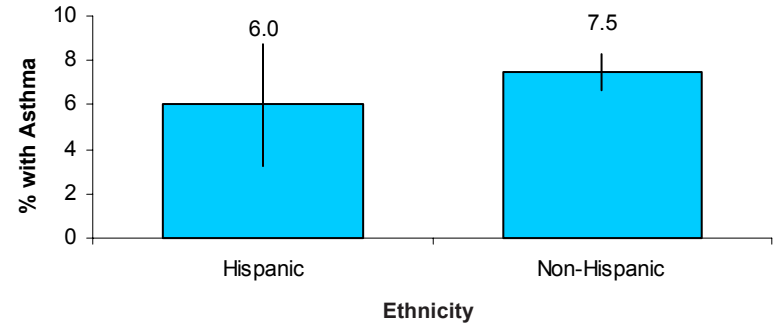
Figure 2.
Prevalence of Asthma among Adults in Utah and the US by Sex (Age-adjusted), 2001-2002



Source: Behavioral Risk Factor Surveillance System

- The asthma prevalence rate was lower for the Hispanic population than for the Non-Hispanic population.

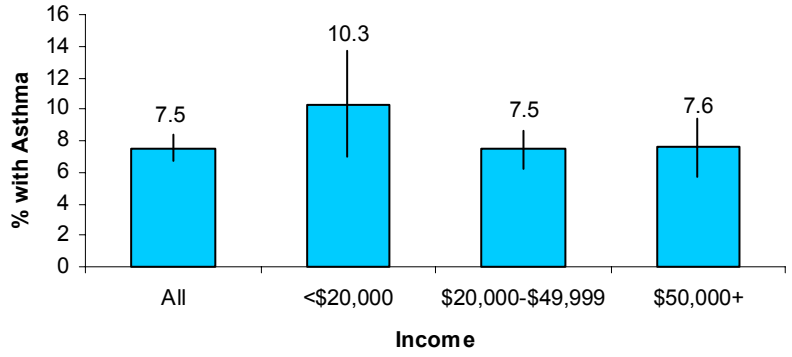
Figure 3.
Prevalence of Asthma among Utah Adults by Ethnicity (Age-adjusted), 2001-2002



Source: Behavioral Risk Factor Surveillance System

Figure 4.

Prevalence of Asthma among Utah Adults by Income (Age-adjusted), 2001-2002

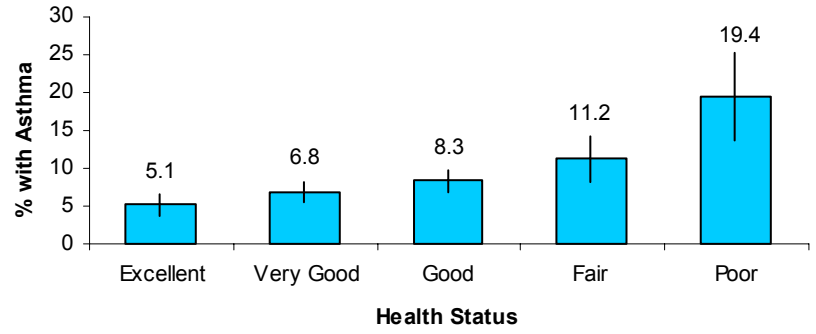


Source: Behavioral Risk Factor Surveillance System

- Persons with an annual income of less than $20,000 were at a slightly higher risk for asthma than persons in a higher income range.

Figure 5.

Prevalence of Asthma among Utah Adults by General Health Status, 2001-2002

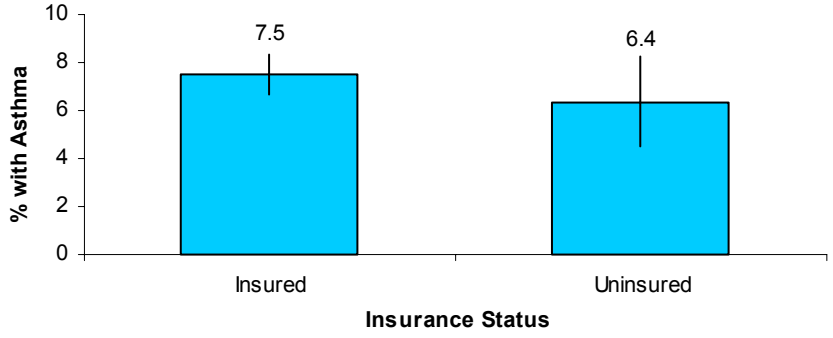


Source: Behavioral Risk Factor Surveillance System

- Persons reporting fair or poor health status were more likely to have asthma than those in good, very good or excellent health.

Figure 6.

Prevalence of Asthma among Utah Adults by Insurance Status (Age-adjusted), 2001-2002



Source: Behavioral Risk Factor Surveillance System

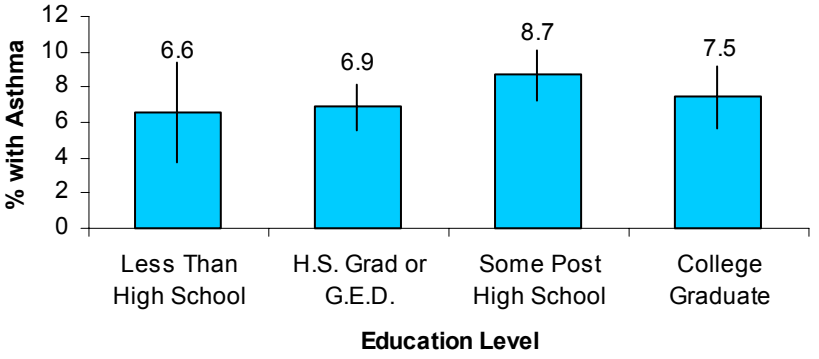
- Insured individuals were equally likely to have asthma as those without health care coverage.

Asthma Prevalence

- Persons with some post-high school education were slightly more likely to have reported being diagnosed with asthma than persons with a college degree or persons with no post-high school education.

Figure 7.

Prevalence of Asthma among Utah Adults by Education (Age-adjusted), 2001-2002

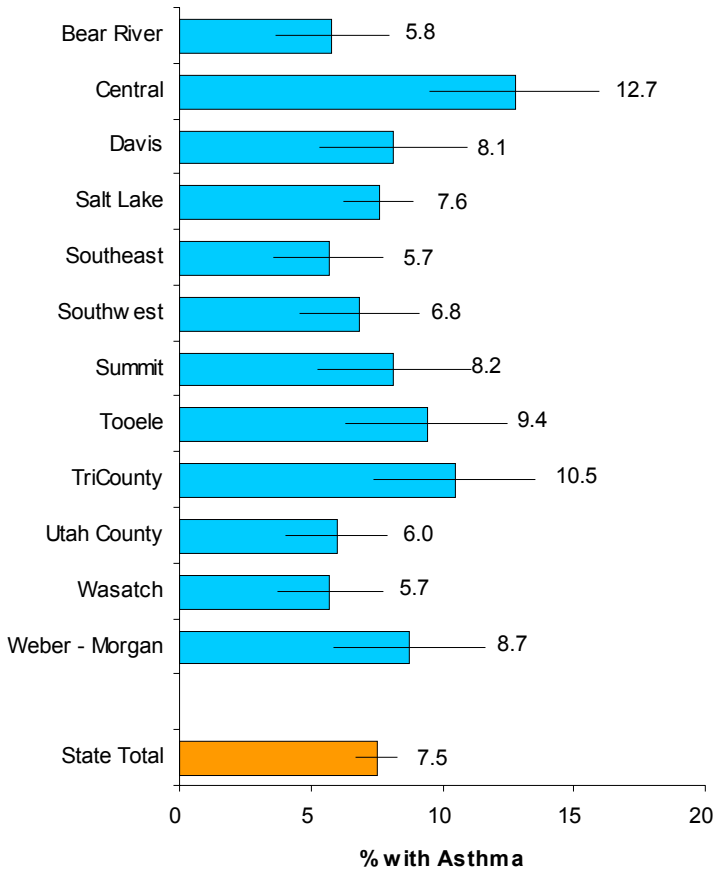


Source: Behavioral Risk Factor Surveillance System

- Utahns living in the Central Utah and Tri-County districts were more likely to have asthma than those in other health districts.

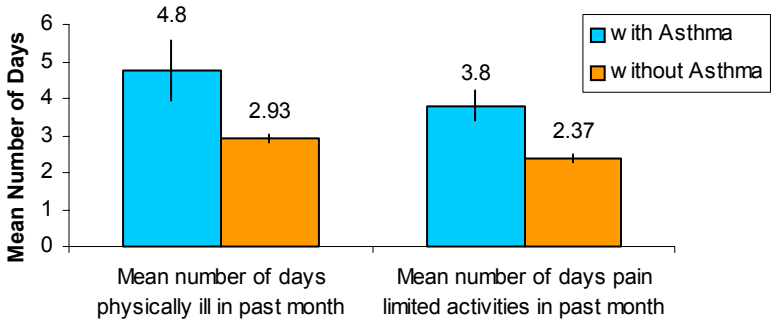
Figure 8.

Prevalence of Asthma among Utah Adults by Local Health District (Age-adjusted), 2001-2002



Source: Behavioral Risk Factor Surveillance System

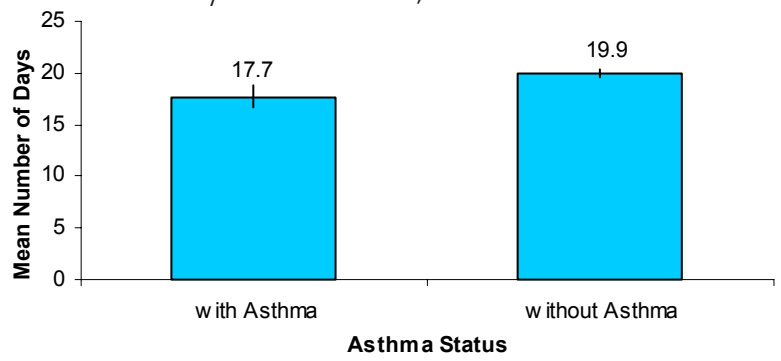
Figure 9.
Mean Number of Days Persons Effected by Asthma Reported Being Physically Ill or Limiting Activities, 2001-2002



Source: Behavioral Risk Factor Surveillance System

- Adults with asthma reported 1.9 more days physically ill during the past month than those without asthma. Adults with asthma also reported 1.4 more days when pain limited their usual activities during the past month compared to those without asthma.

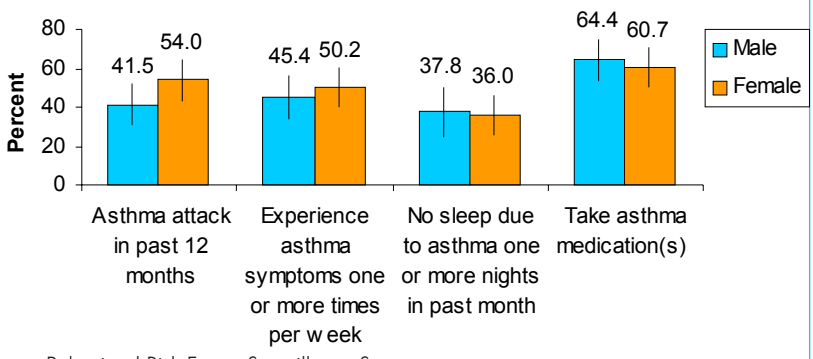
Figure 10.
Number of Days Healthy, Full of Energy by Asthma Status, 2001-2002



Source: Behavioral Risk Factor Surveillance System

- Adults with asthma reported 2.2 less days when they felt healthy and full of energy during the past month than those without asthma.

Figure 11.
Symptoms and Managment of Utah Adults with Asthma by Sex, 2001-2002



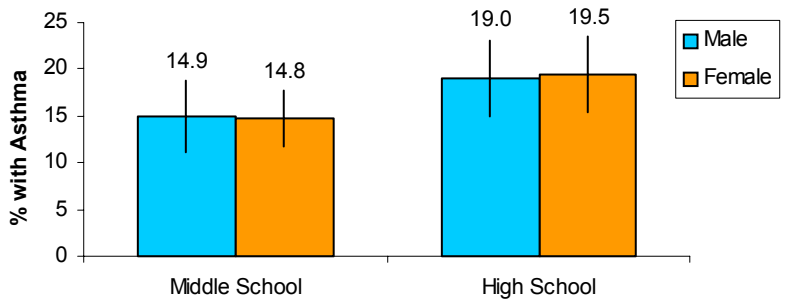
Source: Behavioral Risk Factor Surveillance System

- Close to 50% of adults had an asthma attack and a similar percentage had symptoms one or more times a week. Almost 38% reported taking no asthma medication.

Impacts of Asthma

- A higher prevalence of asthma was seen in high school students compared to middle school students. Boys and girls were equally likey to report having been diagnosed with asthma.

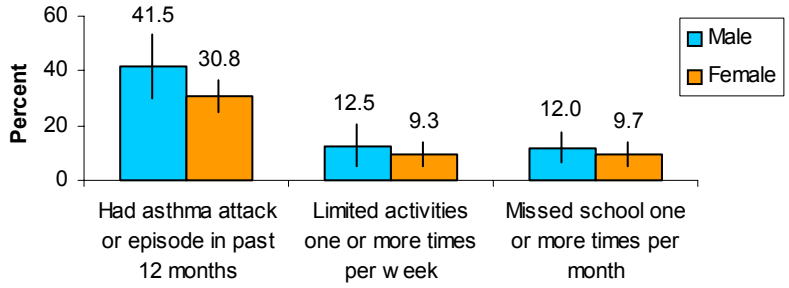
Figure 12.
Prevalence of Asthma Among Middle School and High School Students in Utah by Sex, 2003



Source: Youth Tobacco Survey

- Middle and high school males were more likely to report having suffered from an asthma attack, limited their activities, or missed school than their female counterparts.

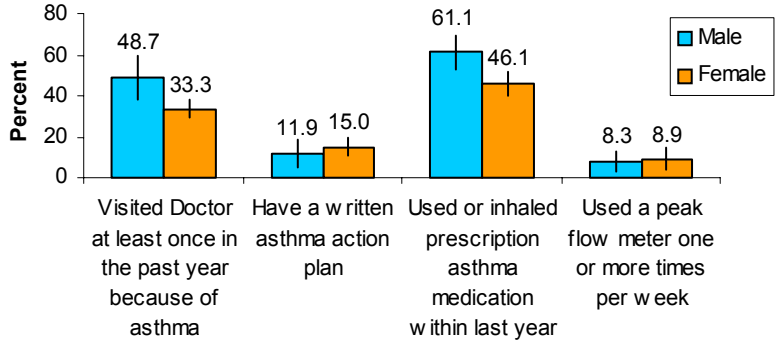
Figure 13.
Complications and Limitations Among Middle School and High School Students with Asthma in Utah by Sex, 2003



Source: Youth Tobacco Survey

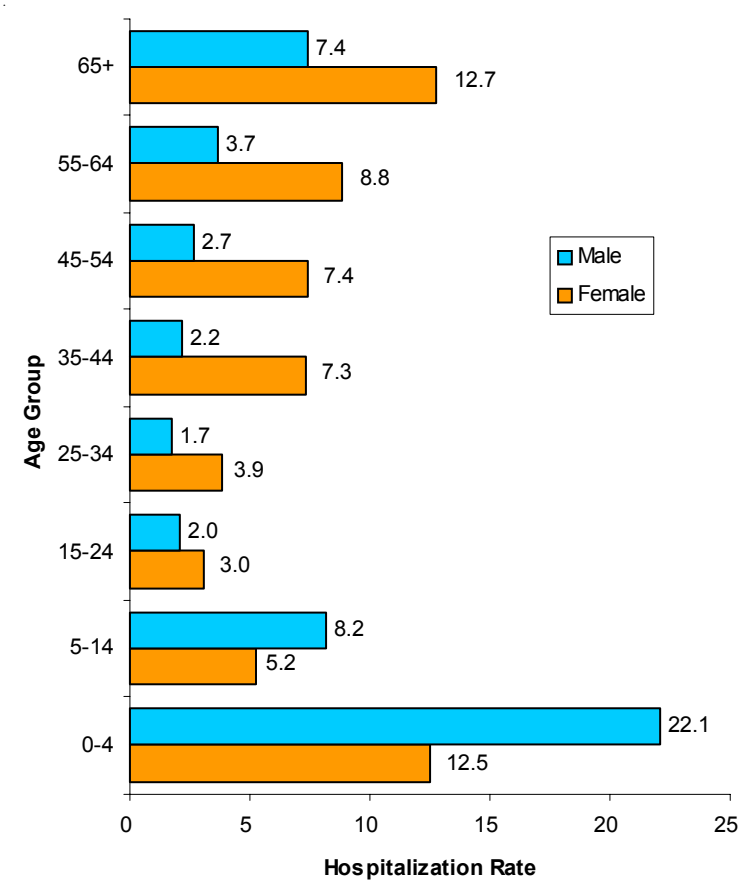
- Only about 15% of middle and high school students who suffer from asthma have a written asthma action plan, while only 8% of students use a peak flow meter one or more times a week to manage their asthma.

Figure 14.
Managment of Asthma Among Middle School and High School Students in Utah by Sex, 2003



Source: Youth Tobacco Survey

Figure 15.
Asthma Hospitalization Rates in Utah by Age and Sex, 2002
Rates per 10,000 Utah Residents



Source: Hospital Discharge Database

- Male children younger than 5 years of age and elderly females aged 65 years or older were more likely to have been hospitalized because of asthma than persons in other age groups.

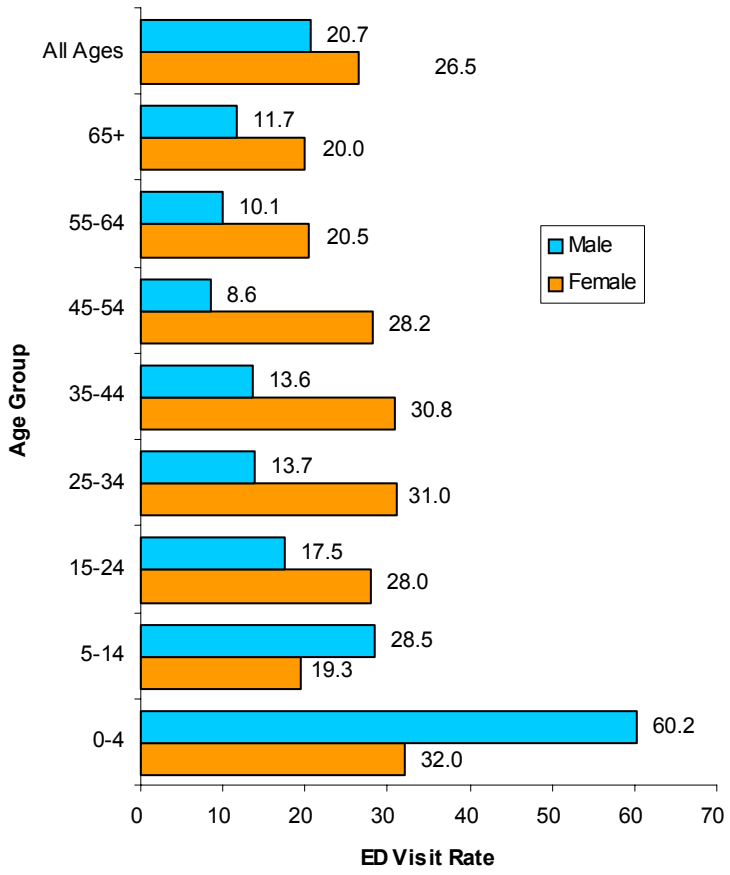
Emergency Department Visits

- Male children younger than 5 years of age were more likely to have visited the emergency department due to asthma than persons in other age groups.
- Females from age 15 and up, were more likely to have visited the emergency department during 2001 due to asthma than males.

Figure 16.

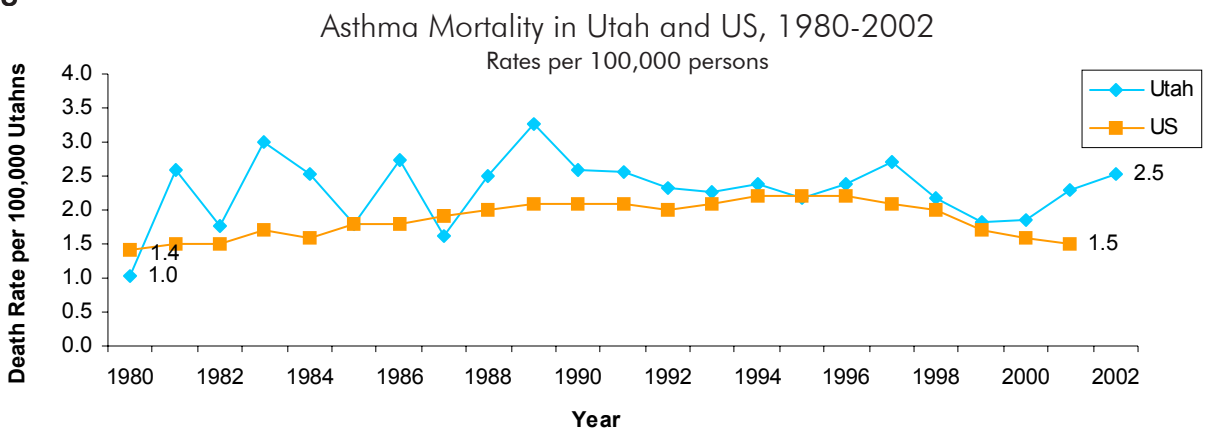
ED Visits Due to Asthma in Utah by Age and Sex, 2001

Rates per 10,000 Utah Residents



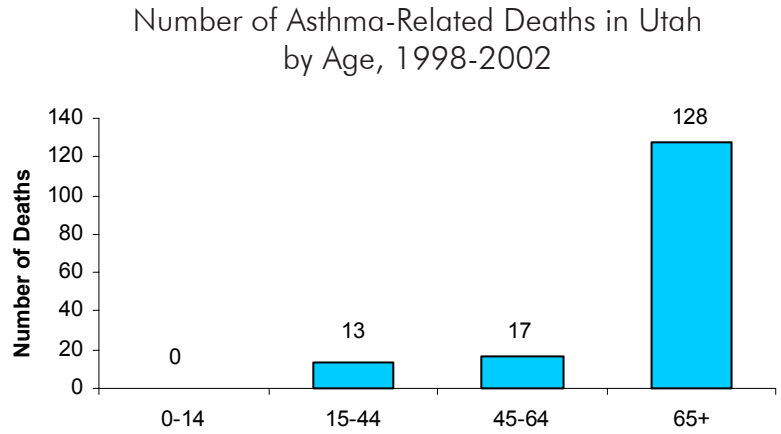
Source: Emergency Department Visit Database

Figure 17.



Source: CDC Wonder, Utah Death Certificate Database

Figure 18.



Source:Utah Death Certificate Database

- The asthma mortality trend in Utah did not show a significant increase during the 1990's. Utah's mortality rate is slightly higher than the national average.
- Person 65 years or older experienced the highest number of deaths due to asthma.

Conclusions

The information in this report represents the most current picture of the burden of asthma in Utah. Future reports on asthma in Utah will be used to evaluate efforts to reduce the burden of asthma, with the data in this report serving as a baseline.

Asthma prevalence among Utah adults was 7.5%, according to data collected from the Behavioral Risk Factor Surveillance System (BRFSS). The highest prevalence of asthma by age group occurred in the 18-24 (8.7%) and 55-64 (9.1%) age groups. Asthma prevalence between genders revealed a difference, with women having a higher self-reported rate of asthma than men in Utah. However, this finding was not unexpected as nationally adult women also self-report a higher prevalence of asthma than men.

Of the adults who reported having asthma in Utah only 64.4% and 60.7% of males and females respectively took medication for their asthma. Adult females experienced more symptoms and were more likely to have had an asthma attack in the past 12 months. Males were more likely to be on asthma medications when compared to females.

Middle and high school males were more likely to have visited a doctor for their asthma and used inhaled asthma medications compared to females. Middle and high school females were more likely to have a written asthma action plan and used a peak flow meter one or more times a week when compared to males. Both genders reported a low percentage of having a written asthma action plan and the use of a peak flow meter.

Males aged 0-4 experienced the highest rate of hospitalization (22.1%), a rate that is almost double that of their female counterparts (12.5%). Females in the age groups of 35-44, 45-54, and 55-64 were twice as likely to be hospitalized for asthma then males in the same age groups.

Males aged 0-4 experienced the highest rate (60.2%) of emergency department (ED) visits due to asthma while females in the same age group experienced a significantly lower ED visit rate (32.0%) due to asthma. Females in all ages groups except 0-4 and 5-14 had a higher rate of ED visits due to asthma than males.

The number of asthma-related deaths between 1998-2002 was 158, with 128 of these deaths occurring in persons aged 65 and older. It should be noted that chronic obstructive pulmonary disease (COPD) may be misdiagnosed as asthma. Therefore, the number of asthma-related deaths in older adults may be overrepresented.

Data regarding asthma prevalence among preschool and elementary school aged children is needed. This data gap is in the process of being addressed with a school pilot project.

Further explorations are needed to determine why Central and Tri-County local health districts experience a higher prevalence of self-reported asthma than other local health districts.

Utah's Asthma Plan

In a continued effort to enhance its asthma surveillance system, the Utah Asthma Program will be adding additional data sources, including Medicaid, private insurance, pharmacy, occupational, and school surveys. These efforts to incorporate new data sources and improve existing asthma surveillance activities underscores the commitment the Utah Asthma Program has to decreasing the burden of asthma in Utah.

The Utah Asthma Program also aided in developing Utah's Asthma Plan, which outlines critical steps needed to reducing the burden of asthma in Utah. The following pages outline Utah's Asthma Plan, focusing on outcomes identified in each of the Utah Asthma Task Force Workgroups.

Utah's Asthma Plan Development

The Utah Asthma Task Force was formed in March 2002 to develop a plan to address issues faced by Utahns with asthma. The Asthma Task Force consists of many organizations and individuals working on asthma issues from throughout Utah. During the first meeting, five workgroups were formed based on pertinent asthma issues, including Education, Health Systems, Patient Issues, Risk Factors, and Data and Monitoring.

The Task Force created the following vision:

Utah communities work together to improve the quality of life for people with chronic asthma symptoms by increasing awareness, access, and education.

The five workgroups met monthly to develop each section of the plan. The Task Force met quarterly to review the ongoing process of Utah's Asthma Plan development.
The remainder of the Asthma in Utah report outlines the objectives and desired outcomes identified by each group. The complete asthma plan is available at http://health.utah.gov/asthma.

Utah Asthma Task Force Partnership Organizations

Local Health Departments

Davis County
Utah County
Wasatch City/County
Weber-Morgan

Additional Organizations

American Lung Association of Utah
Utah Association of Community Health Centers
Health Insight
Intermountain Pediatric Society
Pacific Islander Health Network
Salt Lake Community Action Program/Head Start
Utah School Nurse Association

Hospitals

LDS Hospital
Primary Children's Medical Center
St. Mark's Hospital
University of Utah Medical Center

Universities/Schools

Brigham Young University
Granite School District
Murray School District
University of Utah

Health Plans

Altius
Deseret Mutual Benefit Administrators
Intermountain Health Care
Public Employees Health Plan
Regence Blue Cross/Blue Shield
United Health Care

State Agencies

Utah Department of Health
- Asthma Program
- Center for Health Data
- Health Care Finance
- Maternal and Child Health
- Tobacco Prevention and Control

Utah Department of Environmental Quality

Education

Background:
Through increased awareness of the complications, symptoms, triggers and risk factors of asthma, one can begin to understand its impact. Indeed many effective treatments to manage asthma exist. Unfortunately, most individuals and many of their physicians are unaware of the current resources that are available for asthma management. Patients, providers, and the public must work together to promote "asthma-friendly" communities.

Mission:
Promote unified, accurate, consistent, and appropriate asthma education materials and messages that are delivered to patients, providers, and the public.

Objective 1: **Increase accurate knowledge, skills, and follow-up for those with asthma.**

DESIRED OUTCOMES
- Increased self-management of asthma.
- Increased quality of life for asthma patients.

Objective 2: **Identify and provide patients with resources for asthma management and education.**

DESIRED OUTCOMES
- Increased availability of asthma resources.
- Increased use and awareness of asthma resources.
- Coordination of educational materials that are disseminated statewide.

Objective 3: **Increase provider awareness of resources available for asthma management and education.**

DESIRED OUTCOMES
- Increased use of resources by patients.
- Local health departments will distribute current information on asthma to local providers.

Objective 4: **Create educational opportunities for providers regarding the treatment, management, and education of asthma patients.**

DESIRED OUTCOMES
- Increased educational opportunities for providers.
- Dissemination of educational materials to asthma patients.

Objective 5: **Increase public awareness of asthma as a public health problem.**

DESIRED OUTCOMES
- Increased public awareness of the complications, symptoms, triggers, and risk factors of asthma.

Health Systems

Background:

Asthma patients must have access to appropriate primary and specialty asthma care, education services, and necessary medications and devices in order to achieve effective asthma management. Unfortunately, while many of these patients not only lack access to basic services, they also require coordination among providers in the health care system.

Mission:

Promote a health care system that provides access to high quality care for all Utahns with asthma.

Objective 1: **Explore access to health care and identify barriers to care for patients with asthma.**

DESIRED OUTCOMES

- Increased access to care for underserved and uninsured asthma patients.
- Decreased barriers for persons with asthma who need care.
- Better continuity of care for asthma patients.

Objective 2: **Support innovative approaches to providing professional development opportunities.**

DESIRED OUTCOMES

- Increased availability of resources and educational materials for providers.
- Increased communication among appropriate medical community regarding asthma patients.

Objective 3: **Support development of model health care benefit packages for essential asthma services.**

DESIRED OUTCOMES

- Improved benefit packages for asthma patients.
- Access for all levels of services for asthma patients.
- Promotion of care for asthma patients.

Objective 4: **Promote available resources to encourage the underinsured or uninsured to seek care for their asthma.**

DESIRED OUTCOMES

- Increased number of asthma patients that receive care.

Patient Issues

Background:
Those asthma patients who are able to manage their asthma effectively experience a greater quality of life. There are many barriers that hinder patients from becoming experts in their own care. However, with appropriate resources and training, asthma patients can overcome those barriers. Patients must first be aware of and have access to resources that will help them learn to manage their asthma. Patients should develop, with the help of their provider, an asthma management plan to be implemented at home, work, or school. Health care providers play a key role in helping patients develop management skills, providing educational materials and support, and monitoring and evaluating the asthma action plan.

Those asthma patients who learn to effectively control their asthma will not only experience a better quality of life, but should also see a decrease in missed days of work or school, a reduction in number and severity of attacks, and decreased number of hospital visits. The Utah Asthma Plan seeks to remove barriers and help patients become experts in their own care.

Mission:
Provide the tools and resources necessary to maximize and promote wellness and to improve quality of life for people with chronic asthma symptoms.

Objective 1: **Assist patients with asthma management so they will be able to function as normally as possible in all domains of their life affected by asthma.**

DESIRED OUTCOMES
- Measurable optimal functioning of asthma patients.
- Improved awareness by medical providers of their patients' skills and needs.
- Improved provider awareness of factors that could interfere with outcomes or could occur as side effects of treatment.

Objective 2: **Assist patients in the transfer of knowledge about asthma and its treatment into actual performance of management behaviors**.

DESIRED OUTCOMES
- Improved patient self-efficacy.
- Improved patient performance of asthma care skills over time.
- Improved consistency of follow-up and increased frequency of patient-practitioner communication.

Objective 3: **Assist patients in improving motivation for asthma care.**

DESIRED OUTCOMES
- Reduced burden of asthma care on urgent and emergency services.
- Improved continuity of care for patients previously without primary care providers.
- Improved accountability of patients to seek out consistent well-followed care.
- Improved frequency and quality of patient monitoring of asthma.

Patient Issues, continued

Objective 4: **Develop a guide to available resources for patients with complex or difficult-to-manage asthma, including adjunctive services from practitioners sensitive to the issues faced by asthma patients.**

DESIRED OUTCOMES

- Improved patient and practitioner knowledge of direct and indirect services available to patients with asthma.
- Improved asthma patients' access to services for all aspects of their care and well-being.

Objective 5: **Assure that state laws and policies reflect current care practice guidelines and support the need for good asthma care.**

DESIRED OUTCOMES

- Increased awareness of laws and policies currently in place that impact care of asthma, especially for children in school.
- Improved advocacy and care for families that is consistent with both current policies and treatment goals.

Risk Factors

Background:
Asthma prevalence continues to increase throughout the world, with asthma mortality, particularly in children also increasing in those countries where prevalence is rising. While asthma is recognized as having multiple causes, allergic asthma and its associated environmental factors appears to be most significant in regard to the global epidemic. Utah, with its diverse ethnicity, high population of children, variety of housing, and unique mixture of mountain valley, desert climate, industry, and agriculture, provides a significant challenge toward slowing the trend for increasing asthma morbidity and mortality. Efforts towards prevention and control of environmental risk factors for asthma must focus on reducing indoor and outdoor pollutant exposures for people with asthma, as well as those at increased risk for developing asthma, such as children with clinical allergies.

Mission:
Identify Utah-specific risk factors for asthma and facilitate the implementation of effective strategies to reduce those risks.

Objective 1: **Seek to reduce Utah-specific indoor environmental risk factors through community cooperation in promoting risk factor awareness and reducing those risks.**

DESIRED OUTCOMES
- Increased awareness of home hygiene practices to reduce the risk of asthma.
- Increased assistance by local health departments to communities in the implementation of home hygiene practices.
- Increased awareness of effects of water damage, flooding, sewage backups, and plumbing leaks in relation to asthma.
- Improved indoor air quality in Utah institutions, including buildings, schools, and day care centers.

Objective 2: **Identify Utah-specific outdoor environmental risk factors and reduce those risks.**

DESIRED OUTCOMES
- Decreased air emissions and outdoor pollutants.
- Increased asthma awareness statewide.

Objective 3: **Assure that occupational health nurses and safety professionals are aware of the agents that are known sensitizers or irritants, those which may become irritants, and those which may induce asthma relative to their particular industry.**

DESIRED OUTCOMES
- Increased awareness of asthma-specific irritants.
- Increased use of Material Safety Data Sheets in the workplace.
- Creation of a systematic approach to keeping professionals current on the latest research.
- Education of occupational and safety personnel in basic surveillance methodology.

Risk Factors, continued

Objective 4: **Assist occupational health nurses and safety professionals in the workplace with information or resources that will assist them in developing their industry-specific surveillance and monitoring.**

DESIRED OUTCOMES

- Increased employee reports that are compiled and analyzed to include signs and symptom information, work site where exposure occurred, and potential new irritants or exposure issues.
- Increased number of employees that receive early treatment.
- Increased number of geographical areas that are evaluated for control measures.
- Increased differentiation by safety and health professionals of issues which are easily manageable and those that are too complex to understand and manage without consultant assistance.

Objective 5: **Develop recommendations for industries so they can formulate work site management plans to minimize exposure through known controls and address the management of sensitized employees.**

DESIRED OUTCOMES

- Creation of safe workplace climate for all Utahns.
- Development of work site asthma management programs to prevent and control exposure to irritants.
- Increased number of employees that obtain preventive vaccinations.

Objective 6: **Explore opportunities to evaluate genetics as a predictor of asthma risk.**

DESIRED OUTCOMES

- Increase awareness of possible genetic link to asthma patients.
- Increased early detection of asthma in at-risk populations.

Data and Monitoring

Background:
The burden of asthma in Utah is significant. To be able to assess whether the state plan is efficient in reducing this burden, the morbidity, mortality, and impact of the disease must be assessed. The data that are gathered will not only direct the plan, but will also determine how close the plan is to achieving its goals.

Mission:
Assure availability of high quality data to guide interventions that prevent asthma and improve the quality of life for people with asthma.

Objective 1: Identify data needs.

DESIRED OUTCOMES
- Establishment of a data system sufficient for the Asthma Program's needs.
- Creation of a summary report of data needs assessment results.

Objective 2: Assess and improve the quality of existing data sources.

DESIRED OUTCOMES
- Ability to make recommendations to data providers for data quality improvement.
- Evaluation of the quality of each data source in a summary report.

Objective 3: Develop new data sources to fill gaps as they are identified.

DESIRED OUTCOMES
- Addition of asthma module to data collection systems.
- Analysis of data from pilot projects to determine if they can be implemented on a larger scale.

Objective 4: Produce and disseminate information from surveillance data.

DESIRED OUTCOMES
- Development of a timeline for dissemination of information.
- Evaluation of usefulness of the report.

Objective 5: Develop infrastructure to support surveillance needs.

DESIRED OUTCOMES
- Comprehensive infrastructure and sufficient support system for compilation and dissemination of data in a timely manner.

Data and Monitoring, continued

Objective 6: Evaluate the implementation of Utah's Asthma Plan.

DESIRED OUTCOMES

- Effectiveness of the plan is demonstrated.
- Program planning is driven by data.
- Timely implementation of state plan objectives.
- Corrective action is implemented as necessary to adjust the plan.

Appendix

Behavioral Risk Factor Surveillance System

Because participation is voluntary and only persons with a telephone who are not institutionalized can participate, a potential for selection bias exists. The information obtained from the BRFSS is self-reported and a potential for response bias exists.

Mortality

Occasionally, death certificates are registered with the cause of death information incomplete, inconsistent, or equivocal, and additional information from the center is not available. In such cases, selection and modification rules are used to select the underlying cause of death for statistical purpose. Selection and modification rules, which adapt the coding procedure for reporting practices in the United States, are published by the Public Health Service, National Center for Health Statistics in annual editions of the Vital Statistics Instruction Manual.

Youth Tobacco Survey

The Utah Youth Tobacco Survey (UYTS) did not include certain youth segments, such as students in private or alternative schools, school drop-outs, or youth in correctional facilities and treatment centers. Due to Utah's active consent law for school-based surveys, students who did not return their consent forms were not represented.